



Region of Waterloo

## **Career Opportunity**

The Region of Waterloo is currently recruiting for a:  
**Senior Electrical Engineer (Rapid Transit)**

Department: Transportation Services  
Division: Transit Services  
Hours of Work: 35 hours per week  
Location: 518 Dutton Drive, Waterloo, ON  
Number of Vacancies: one (1)

### **Our Story:**

Committed to fostering opportunities for current and future generations, the Region of Waterloo is an inclusive, thriving and sustainable region of connected rural and urban communities with global reach. Our mission is to serve, engage and inspire, by delivering quality services to a diverse population of 630,000+, while creating a healthy, collaborative environment of learning, respect and innovation.

This is a place where employees are valued and recognized for their talents and contributions to our success. Our employees take pride in making a difference in people's lives through the work that we do. We are looking for people like you to help make it happen.

### **Our Team:**

Grand River Transit (GRT) provides transit service to the three cities, and four townships in the Regional Municipality of Waterloo. We operate more than 50 routes and cover more than 20 million kilometers every year. Our fleet consists of more than 300 vehicles, including conventional and MobilityPLUS buses and ION light rail trains. We have more than 2,500 stops across the region, and more than 560 shelters.

GRT values employees and recognizes that their talents are vital to our own success. Our employees take pride in making a difference and ensuring transit is safe, reliable and convenient for their community. We are looking for people like you to help us keep the Region moving.

### **The Opportunity:**

Reporting to the Manager, Light Rail Transit Operations, this exciting opportunity would be well suited for an enthusiastic, collaborative self-starter who thrives in an environment of innovation and change. As the Senior Electrical Engineer (Rapid Transit) you will provide engineering services in the planning design, installation, testing, procurement,

and commissioning of rapid transit infrastructure, signaling, train control and traction power systems and equipment, including light rail and other rapid transit vehicles. You will also manage technical knowledge of the existing rapid transit system to ensure compatibility with future extensions.

### **Apply Your Knowledge, Skills and Abilities:**

- As the subject matter expert, you will contribute to the development and implementation of light rail transit infrastructure, signals, and systems best practices, strategies, policies, procedures, and standards. You will undertake research and evaluation studies for engineering innovations in the field of rapid transit, including light rail and electric buses.
- You will manage technical knowledge library of the existing rapid transit system. Coordinate information on existing rapid transit system with suppliers, consultants, contractors, and other Regional staff.
- Lead and coordinate the design process including the interchange of interface information, technical clarifications, design changes, and design variances between the systems design consultant, other engineering/Rapid Transit staff and project management teams, Regional staff, external consultants, and suppliers.
- Review engineering work submitted by consultants and contractors, including technical clarifications, design changes, and design variances between the existing rapid transit system and future line extensions to ensure compatibility. Coordinates technical engineering elements with design consultant and rapid transit engineering and project management teams, Regional staff, consultants, and suppliers.
- Provide technical expertise in the review of electrical and mechanical systems and equipment related to the light rail transit system. Applies knowledge of AC and DC power supply and distribution systems that provide overhead catenary power for light rail, based on design experience with 600/750-volt DC rail transit traction power substations, wayside cable plant, circuit breakers, switchgears, transformers, rectifiers, SCADA and PLC protection systems, and overhead catenary characteristics.
- Review and approve electrical design calculations, development and preparation of one-line and equipment layout design drawings, equipment sizing and protection schemes, costs estimates for construction, development of performance and technical specifications, utility connection considerations, field preparation work, commissioning activities, and interface with adjacent system related disciplines such as overhead contact systems, track, signals, and communications.
- Advise the Division on capital projects; develops and meets design schedules. Develops and prepares technical specifications for future rapid transit lines, per standards. Reviews detailed project quantity and cost estimates based on final design. Prepares, coordinates, and issues revised corporate engineering standards related to rapid transit to Region departments, municipalities, consultants, and contractors, as applicable.
- Visit construction sites to perform engineering reviews, audits, and assess quality

- of work and progress. Accepts completed contract work on behalf of the Region.
- Review design work by consultants, including monitoring progress, facilitating and attending technical and progress meetings, reviewing progress reports, and approving invoices for services.
  - Review and prepares reports and correspondence related to project technical issues, schedules, and interfaces, as required.
  - Work closely with contractors to manage the inspection, maintenance, and design of rapid transit infrastructure and systems, per standards and sound engineering practices, including recommending improvements in methods, materials, and design of programs and schedules.
  - Respond to concerns and complaints as directed by senior staff on issues related to rapid transit engineering.
  - Communicate with Legal and Finance to resolve issues related to contracts, liability, and budgets.
  - Contact Provincial and Federal government agencies, area municipalities, consultants and contractors, developers, the media, and utility companies to provide professional engineering services, information, and recommendations. Represents the Region at open houses.
  - Performs related duties as required.

### **Apply Your Experience at the Region of Waterloo**

- You will have a strong background and knowledge of rapid transit engineering principles and operating practices, and comprehensive knowledge of rapid transit systems, including traction power substations, overhead catenary systems (750Vdc traction and auto-tensioned systems), signaling and train control, acquired through an accredited Electrical Engineering/Applied Science degree, plus progressively responsible directly related experience managing rapid transit activities.
- Must be licensed and in good standing as a Professional Engineer in the Province of Ontario, or be a member in good standing holding a Limited License in the area of practice(s), issued by the PEO. For those trained outside of Canada, equivalency will be determined by the PEO. Participates in activities to maintain professional license.
- Strong knowledge of industry standards associated with railway design and operation; insulation coordination, grounding, and ampacity studies; electric locomotive, rolling stock, and electric multiple unit operating characteristics and design; utility system operation and design; energy storage and regenerative braking technology, load flow analyzers; and traction power systems.
- Knowledge of and ability to comply with corporate policies and procedures, related legislation (e.g., Occupational Health and Safety Act, Construction Lien Act, Environmental Protection Act, Environmental Assessment Act, Safe Drinking Water Act), Ontario Provincial Standards, Canadian Standards, Ministry guidelines, contract law, and standards for engineering, and those related to disability accommodation and accessibility requirements pertaining to passengers and employees.

- Knowledge of project management principles, methods, and practices. Judgement, organizational, research, analytical, and problem solving skills to manage contracts and multiple projects, and prepare and analyze technical reports.
- Strong communication, human relations, negotiation, and leadership skills to direct and guide contractors, consultants, and staff; coordinate project requirements; influence others to achieve project goals and objectives; conduct presentations and participate in open houses and formal meetings attended by the media and public; respond to public inquiries; issue instructions and schedules to others and explain electrical issues; and participate as an effective team member.
- Ability to read and interpret policy and procedures manuals, engineering and technical work-related journals, design specifications, contracts, reports, legal documents, and memos.
- Ability to write project correspondence, reports, contracts, agreements, and project definition reports for consultants, contractors, committees, regional and area municipal councils, staff, media, and the public where applicable. Ability to prepare written and visual materials for public drop-in centres, open houses, and formal public meetings.
- Strong computer skills with ability to use software such as Microsoft Office and AutoCAD, including some computer programming and computer aided design.
- Ability to travel within Waterloo Region.
- Ability to alter hours to work some evenings and weekends for call-outs on construction sites to respond to site emergencies, problems, or avoid delays, and attend inspections, open houses, and formal public meetings.
- Ability to support and demonstrate the Region's values.

**Additional Information:**

**Compensation:**

In addition to offering a competitive compensation package, we have a strong focus on health and wellness, including fitness facilities and family-focused benefits. The salary of this position ranges between \$104,468.00-\$130,585.00 per annum (Grade 8 on the Management & Management Support wage scale).

We invite applicants to apply online by following the link: <https://bit.ly/48ilb6M>

Consideration will be given to candidates that are not fully qualified when no fully qualified applicants can be identified.

We thank all applicants in advance; however, we will be corresponding only with those selected for an interview.

The Region of Waterloo is an equal opportunity employer committed to an inclusive, barrier-free recruitment and selection process. At the Region, we respect, encourage and celebrate our diversity. The Region of Waterloo is committed to providing

accommodations throughout the recruitment process. If you require an accommodation, please notify us and we will work with you to meet your needs.

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